INDEX TO VOLUME X

Abies balsamea, 388
Abnormal growth induced by chloral hydrate soil treatment, 334
Abstracts of papers presented at Eleventh Annual Meeting of the American Phytopathological Society, 51–68; at First Annual Meeting of Canadian Branch, American Phytopathological Society, 314–319
Acer, circinatum, Cytospora on, 443; glabrum, Cytospora on, 443; rubrum, Cytospora on, 443
Achrae sapotae, 391
Achras zapota, 383
Acid, citric, effect on Puccinia graminis tritici, 448
Actinomyces scabies, 63
Adams, J. F., and Russell, A. M., Rhizopus infection of corn on the germinator, 535–543
Advisory Board of American Plant Pathologists, Washington meeting of, 257
Aeciospores of Cronartium ribicola, spread of, 358
Alfalfa, crown wart, 65
Alkali, relation of to collar-rot, 475
Alternaria, fasciculata, 20; solani, insect transmission of, 209; on tomatoes, 59
American Phytopathological Society, report of Eleventh Annual Meeting, 265–271; report of meeting of Pacific Coast Division, 351–352; report of Southern Division meeting, 381; summer field meeting of, 496
Annual general meeting of the Association of Economic Biologists, 254–256
Anthracnose, of sweet peas, transmission of, 198; of vanilla, 341
Aphelenchus cocophilus, 401
Aphids, relation to potato tip burn, 61
Aplanobacter stizolobii n. sp., 75
Apple, bitter rot, insect transmission of, 201; black rot, 453; blotch, spraying for, 58; blotch and bitter-rot cankers, 353; canker, insect transmission of, 197, 208; collar rot, 465; scab, control of, 58; slime flux, 58
Arceuthobium pusillum, 317
Armillaria mellea, 466, 469; on Azalea, 375; on Rhododendron, 375
Arsenical poisoning, 466, 474, 477
Arthur, J. C. Two destructive rusts ready to invade the United States (abst.), 65
Ash, mountain, see Sorbus
Aspen, diseases of, 141; trunk troubles of, 143; twig troubles of, 143; see also Populus
Atwood, Alice C., and Smith, Florence P. Literature on plant diseases, 69–71, 112–117, 181–184, 259–263, 309–313, 344–350, 377–380, 403–405, 431–434, 460–464, 506–512, 547–554
Azalea, shoe-string rot of, 375

Bacillus, amylovorus, 466; amylovorus, insect transmission of, 192; cloacae, 490; coli, 494; coli, insect transmission of, 214; subtilis, 494; tracheiphilus, insect relations of, 133; tracheiphilus, insect transmission of, 210
Bacterial blight of soybean, 68, 119
Bacterium, aptatum, insect transmission of, 203; campestre, 82; campestre, insect transmission of, 195; malvacearum, insect transmission of, 203; savastanoi, insect transmission of, 212; sojae, 79, 120; solanacearum, insect transmission of, 195; tumefaciens, 387
Bain, Samuel McCutchen, biographical sketch of, 185
Banana wilt, 504
Barley, leaf spot, 317; resistance of to Rhynchosporium, 54; stem disease, 317; streak, 317

Basidia, shape of, in Uredineae and Hymenomycetes, 315
BEACH, F. H., see STOVER, W. G.
Bean, heat injury to, 365; inheritance of disease resistance in, 319; mosaic, 317
Beet, leaf spot, insect transmission of, 203
Beetle, scolytid, relation to white pine blister rust, 524
BELL, ALBERT THOMAS, biographical sketch of, 373
BENNETT, C. W., Phoma root-rot of celery (abst.), 67
Berberis canadensis, Puccinia graminis on, 305
BIGGAR, H. HOWARD, see HOLBERT, J. R.
Biographical sketch of, Bain, Samuel McCutchen, 185; Bell, Albert Thomas, 373; Farlow, William Gilson, 1; Kawakami, Koichiro, 459
Biologists, economic, annual general meeting of the association of, 254
Bitter-rot cankers, apple, 353
Black leg, cabbage, occurrence and control of, 64
Black rot, apple, 453; cabbage, seed transmission of, 175
BLAIR, R. J., Decay in the timber of pulp and paper mill roofs (abst.), 314; Wood-destroying fungi in pulp and paper mill roofs (abst.), 61
Blazing trees, pathological effect of, 371
Blight, cedar, 249; chestnut, insect transmission of, 201; early, on tomato fruit, 9; resistance of chestnut to, 368; snapdragon, 232
Blister rust, white pine, 177; behavior of pycnia and aecia of, 515
Blossom blight, peach, 64
Blotch, apple, 353
Blue grass, rusted appearance, 317
Boll disease, internal, of cotton, transmission of, 198
BONAR, LEE, Wilt of white clover due to Brachysporium trifolii, 435–441
BOTJES, J. OORTWYN, Raising Phloem-necrosis- and mosaic-free potatoes, and a source of infection whose nature has not yet been elucidated, 48–49
Botrysphaeria ribis, insect transmission of, 198
Botrytis sp., 317, 533; on tomatoes, 498; cinerea, insect transmission of, 203; vulgaris, insect transmission of, 203
Brachysporium trifolii n. sp., 441
Brassica, chinensis, heart rot of, 81; pekinensis, heart rot of, 88
Brazil nuts, black crust, 61
BRENTZEL, W. E., see REDDY, C. S.
Brome grass, powdery mildew, insect transmission of, 204
BROWN, FLORENCE COERPER, see WOODWORTH, C. M.
BROWN, NELLIE A., A Pestalozzia producing a tumor on the Sapodilla tree, 383–394; and Harvey, R. B., Heart rot, rib rot, and leaf spot of Chinese cabbage, 81–90.
Brown rot of lemon, 397
BULLER, A. H. R., Some comparative observations upon the shape of the basidia and the mode of spore discharge in the Uredineae and the Hymenomycetes (abst.), 315; The pseudorhiza of certain saprophytic and parasitic Agaricineae (abst.), 316
Bunt, of wheat, 53
BUTLER, O., On the amount of copper required for the control of Phytophthora infestans on potatoes, 298–304
BYARS, L. P., A disease of red clover and strawberry in the Pacific Northwest caused by the nematode Tylenchus dipsaci (Kühn), Bastian (abst.), 66; A nematode disease of red clover and strawberry in the Pacific Northwest, 91–95; see also MacMillan, H. G.

Cabbage, black leg, insect transmission of, 197; black leg, occurrence and control of, 64; black rot, insect transmission of, 195; black rot, seed transmission of, 175; Fusarium-resistant, 64; yellows, influence of soil temperature on, 63
CAESAR, L., Some data on peach yellows and little peach in Ontario (abst.), 318
Canada balsam, witches broom of, (abst.), 315

Canker, blister, of apple, 58; caused by Cytospora, 442
Carnation bud rot, insect transmission of, 196
CARR, R. H., see HOFFER, G. N.
CASH, LILLIAN C., see RAND, F. V.
Castanea, resistance of, to blight, 368
Cedar, Phomopsis blight, 249
Celery, Phoma root-rot, 67
Cephalothecium roseum, 538
Cercospora, beticola, insect transmission of, 203; medicaginis, 66; personata, insect transmission of, 208
Cereal rusts, 319
Check list of Department of Agriculture publications, 256
Chemicals, effect on vascular system of injected chestnuts, 23; injection into vetch seedlings, 30; stimulation of cells by, 29
CHEN, C. C., see NORTON, J. B. S.
Cherry, leaf spot, 317; shot hole, 317
Chestnut, blight cankers, healing of, 370; blight, insect transmission of, 201; pathological xylem produced by injection of chemicals, 23; resistance to blight, 368
Chinese cabbage, heart rot, 81; leaf spot, 81; rib rot, 81
Chloral hydrate, soil treatment with, 334
Citric acid, effect on Puccinia graminis tritici, 448
Citrus, Phytophthora terrestria on, 397
Claviceps purpurea, insect transmission of, 208
CLAYTON, E. E., The relation of soil temperature to the development of the tomato Fusarium wilt (abst.), 63
Climate, relation of to the development and control of leaf roll of potato, 407
CLINTON, G. P., William Gilson Farlow, biographical sketch, 1–8
Clitocybe parasitica, 466
Clover, bur, leaf-spot, overwintering and control of, 66; red, nematode disease of, 66; white, wilt of, 435
Cocoanut, bud rot, insect transmission of, 214; root disease, 401
Coccomyces, dentatus, 276; hiemalis, 317; prunophorae, 317
Coix, smut, 331
Collar rot of apple trees in the Yakima Valley, 465
Colletotrichum falcatum, insect transmission of, 203
COLLINS, J. FRANKLIN, Note on resistance of chestnut to blight, 368–371
Conifers, resinous species of, 372; nonresinous species of, 372; infection of through mechanical wounding, 371
Coniothyrium caryogenum, 199
COOK, MEL T., The Alternaria fruit rot and Rhizoctonia stem rot of tomatoes (abst.), 59; Blossom blight of the peach (abst.), 64
COONS, G. H., Experiments on the control of stinking smut of wheat (abst.), 54
Copper, amount required for control of potato Phytophthora, 298
Coriolus versicolor, 65
Corn, new smut in Washington, 328; purple leaf sheath spot, 54, 487; results with inoculated seed, 57; Rhizopus infection of, on the germinator, 535; root rot, control of, 55; stalk rot, control of, 55; tests with diseased and healthy seed, 57
Coryneum rhododendri, 276
Cotton, angular leaf spot, insect transmission of, 203; anthracnose, insect transmission of, 203; internal boll disease, insect transmission of, 198
Cottonwood, see Populus
Cranberries, false blossoms in, 173
CROMWELL, RICHARD O., Recent studies on Septoria of wheat (abst.), 51
Cronartium, coleosporoides, 395; ribicola, distance of spread of aeciospores and urediniospores of, 358; ribicola, insect transmission of, 209; ribicola, on Ribes cynosbati, 359, on Ribes rotundifolium, 361, on R. Americanum, 361; ribicola, production of aecia of, 111
Crop protection institute, 544
Crown rot of apple, 465
Crown wart, alfalfa, 65
Cryptostictis sp., 277

Cucumber, bacterial wilt, insect transmission of, 210; mosaic, 317; mosaic, insect transmission of, 218
Cucurbit, bacterial wilt, insect transmission of, 210
Culture, pure, device for growing large plants in sterile media, 425
Curly dwarf, potato, 36
Currant, cane blight, insect transmission of, 198; and white pine blister rust control, 177
Cydonia vulgaris, 391
Cytospora chrysosperma, 442

Dana, B. F., and Zundel, George L., A new corn smut in Washington, 328–330
Dasyscypha calycina, insect transmission of, 196
Detwiler, S. B., Results of white pine blister rust control in 1919, 177–180
Dickson, B. T., Sclerotinia wilt of greenhouse tomatoes, 500–501; Stem-end rot of greenhouse tomatoes, 498–500
Dickson, James G., see Holbert, J. R.; see Johnson, A. G.
Didymellina iridis, 148
Diorchidium spp., insect transmission of, 209
Disease resistance, inheritance of in bean, 319; of barley varieties to Rhynchosporium, 54
Disease transmission by insects, 189
Drayton, F. L., Health and disease in plants, 314
Drechsler, Charles, see Jones, Fred Reuel
Durrell, L. W., The purple sheath spot of corn (abst.), 54; A preliminary study of the purple leaf sheath spot of corn, 487–495

Echinodontium tinctorium, 372
Edgerton, C. W., Albert Thomas Bell, biographical sketch, 373–374
Egg plant, resistant in wilt-infected soil, 59; wilt, 317
Endothia parasitica, insect transmission of, 201; on chestnut, 368
Ergot, insect transmission of, 205, 208
Errata, 343
Erysiphe graminis, insect transmission of, 204
Essary, S. H., Samuel McCutchen Bain, biographical sketch, 185–188
Euphorbia flagellosis, insect transmission of, 215
Exoascus unilateralis, 317

False blossom in cranberries, 173
Farlow, W. G., Biographical sketch of, 1
Faull, J. H., Needle blight of white pine (abst.), 315
Fawcett, H. S., Pythiacystis and Phytophthora, 397–399; see also Livingston, B. E.
Field meeting of American Phytopathological Society in 1920, 496
"Filterable virus" diseases, insect transmission of, 219
Fir, balsam, butt rots of, in Quebec Province (abst.), 314
Fire blight, of apple in Washington, 465; insect transmission of, 192, 193, 200
Flax, canker, a non parasitic disease, 66
Fomes, igniarius, 143; laricis, 372; pinicola, 314, 372
Footrot, of citrus, 398; of tomato, Macrosporium, 415; of wheat, 52
Forest trees, Cytospora on, 442
Formaldehyde-drip control of onion smut, 323
Fracker, S. B., Varietal susceptibility to false blossom in cranberries, 173–175
Fragaria, nematode disease of, 91
Fraser, W. P., A smut of western rye grass (abst.), 316
Fromme, F. D., The development of loose smut of wheat as modified by soil fertility (abst.), 53
Frost injury of potatoes, 423
Fungi new to Ontario, 317
Fusarium, avenaecium, on wheat, 51; cabbage resistant to, 64; corn rot, 55; cubense, 504; culmorum on corn, 494; culmorum on wheat, 51; hyperoxysporum, 306; lycopersici, 63, 306; pea blight, 67; the effect of temperature and light on, 52; tomato, influence of soil temperature on, 63

Fusicladium effusum, insect transmission of, 205

GARDNER, MAX W., Peronospora in turnip roots, 321–322
Gibberella saubinetii, on corn, 55, 57; on wheat, 51
Gloeosporium vanillae, 341
Glomerella, cingulata, 353; cingulata, insect transmission of, 201
GLOYER, W. O., Apple blister canker, 58; Effect of straw mulch on potato leaf roll (abst.), 60
GODFREY, G. H., A seed-borne Sclerotium and its relation to a rice-seedling disease, 342–343
Gooseberries and white pine blister rust control, 177
Grape root disease, insect transmission of, 207, 214
Growth, rate of, of blister rust on white pine, 516
Gumming disease of sugar cane in Porto Rico, 429
Gummosis, 397

HAHN, GLENN G., Phomopsis juniperovora, a new species causing blight of nursery cedars, 249–253; see also HARTLEY, CARL
HARTLEY, CARL, Abnormal growth induced by chloral hydrate soil treatment, 334–335; and HAHN, GLENN G., Notes on some diseases of aspen, 141–147
HARTER, L. L., and WEIMER, J. L., Sweet potato stem rot and tomato wilt, 306–397
HARVEY, R. B., see BROWN, NELLIE A.
Head smut, corn, 328
Health and disease in plants (abst.), 314
Heart-rot, peach, 65
Heat injury to beans, 365
HEDGCOCK, GEORGE G., and HUNT, N. REX, Notes on Peridermium harknessii, 395–397
Helminthosporium, avenae-sativae, 317; sativum, 317, 494; teres, 317
Heteroecism, facultative, 279
Heterosporium gracile, 153
HOFFER, G. N., and CARR, R. H., Iron accumulation and mobility in diseased cornstalks (abst.), 56; and CARR, R. H., Experiments to test effects of iron salts on corn plants (abst.), 57; see also HOLBERT, J. R.
H-ion concentration in diseased corn tissues, 56
HOLBERT, J. R., DICKSON, JAMES G. and BIGGAR, H. HOWARD, Correlation of early growth, variation and productivity of maize as influenced by certain pathogenic factors (abst.), 57; HOLBERT, J. R., and HOFFER, G. N., Corn root and stalk rots (abst.), 55
Hopperburn, potato, 61; potato, insect transmission of, 220
HOPKINS, E. F., Overwintering and control of bur clover leaf-spot (abst.), 66
HOTSON, J. W., Collar rot of apple trees in the Yakima Valley, 465–486
HOWITT, J. E., Some observations made in inspecting for leaf roll and mosaic (abst.), 316; see also STONE, R. E.
HUBERT, ERNEST E., Observations on Cytospora chrysosperma in the northwest, 442–447
HUNGERFORD, CHAS. W., and WADE, A. E., Relation between soil moisture and bunt infection in wheat (abst.), 53
HUNT, N. REX, see HEDGCOCK, GEORGE G.
Hydnum, 372
Hymenomycetes, shape of basidia and mode of spore discharge in, 315

Insect relations of Bacillus tracheiphilus, 133
Insect transmission of diseases, 189
Institute, crop protection, 544
Instruments, scientific and patent rights, 67
Iris leaf spot, 148
Iron, in diseased cornstalks, 56
Iron salts, effects, in corn tissues, 57
Ithyphallus coralloides, insect transmission of, 207

JOHANN, HELEN, see JOHNSON, A. G.
JOHNSON, A. G., DICKSON, JAMES G., and JOHANN, HELEN, An epidemic of

Fusarium blight (scab) of wheat and other cereals (abst.), 51; JOHNSON, A. G., and MACKIE, W. W., Evidence of disease resistance in barley to attacks of Rhynchosporium (abst.), 54
JOHNSTON, JOHN R., Review of Les Vanillieres de Tahiti et Moorea by E. P. Meinecke, 341–342.
JONES, FRED REUEL, Pythium as a causal factor in pea blight (abst.), 67; and DRECHSLER, CHAS., The development of Urophlyctis alfalfae (abst.), 65
JONES, L. R., and MCKINNEY, H. H., The influence of soil temperature on the development of potato scab (abst.), 63; JONES, L. R., WALKER, J. C., and TISDALE, W. B., Fifth progress report on Fusarium-resistant cabbage (abst.), 64
Juniperus virginiana, blight of, 249

KAWAKAMI, KOICHIRO, biographical sketch of, 459
KEITT, G. W., A preliminary report on apple scab and its control in Wisconsin (abst.), 58
KOTILA, J. E., Leaf hoppers and hopperburn of potato leaves (abst.), 61
KRAKOVER, L. J., see STAKMAN, E. C.

Larch canker, insect transmission of, 196
Larix occidentalis, 389
"Leaf-curl," potato, 35
Leaf hopper, potato, 61
Leaf roll, potato, 35, 407; potato, infection of neighboring plants, 43
Leaf rust, wheat varieties resistant to, 164
Leaf spot, tomato, 60; velvet bean, 73
LEE, H. ATHERTON, biographical sketch of Koichiro Kawakami, 459; and SERRANO, FELICISIMO B., Banana wilt in the Philippines, 504–505
Lentodium tigrinum, 61
Lenzites trabeum, 61
Leptomonas davidi, insect transmission of, 215
Leptosphaeria, coniothyrium, 208; culmorum, 317
Lettuce, bacterial rot, insect transmission of, 195
Lima bean mildew, insect transmission of, 195
Literature on plant diseases, 69, 112, 181, 259, 309, 344, 377, 403, 431, 469, 506, 547
Little peach in Ontario, 318
LIVINGSTON, B. E., and FAWCETT, H. S., A battery of chambers with different automatically maintained temperatures, 336–340
Lophodermium rhododendri, 276
LYMAN, G. R., The 1919 survey of potato wart (abst.); 60; the summer field meeting of the American Phytopathological Society, 496–498

MCCALLUM, A. W., Napicladium tremulae, a new disease of the poplar (abst.), 318
MCCLINTOCK, J. A., Field tests with strains of wilt-resistant tomato seed in 1919 (abst.), 59
MCCUBBIN, W. A., A heart-rot of peach (abst.), 65
MACINNES, JEAN, The effect of temperature and light on Fusarium sp. causing wheat scab (abst.), 52
MACKIE, W. W., Head smut in sorghum and maize, 307–308; see also JOHNSON, A. G.
MCKINNEY, H. H., see JONES, L. R.
MCLARTY, H. R., A suspected mosaic disease of sweet clover, 501–503
MACMILLAN, H. G., A frost injury of potatoes, 423–424; and BYARS, L. P., Heat injury to beans in Colorado, 365–367
MCROSTIE, G. P., Inheritance of disease resistance in the common bean (abst.), 319
Macrosporium, solani, 15, 17, 59, 418; foot-rot of tomato, 415
Maize, head smut, 307
Mal di gomma, 398
Mangifera indica, 388
Maple, see Acer
Marssonia, populi, 143; potentillae, 317
MARTIN, WILLIAM H., Sulphur experiments for the control of potato scab (abst.), 60

MATZ, J., Gumming disease of sugar cane in Porto Rico, 429–430
Media, sterile, device for growing large plants in, 425
MEINECKE, E. P., Facultative heteroecism in Peridermium cerebrum and P. harknessii, 279–297; report on diseases of vanilla in Tahiti and Moorea, 341
Melampsora, albertensis, 143; medusae, 143
Melampsorella caryaphyllacearum, 315
Melampsoropsis piperiana, 274
Melanconium fungus, insect transmission of, 204
MELCHERS, L. E., The resistance shown by three hard winter wheats, Kanred (P762), P1066, and P1068, to plant diseases (abst.), 52; and PARKER, J. H., Three winter wheat varieties resistant to leaf rust in Kansas, 164–171; and PARKER, JOHN H., The resistance of Kanred (P762), P1066, and P1068, three hard winter wheats to leaf rust (abst.), 52
Monilia candida, insect transmission of, 214
Mosaic, of cucumber, 218; pokeweed, 218; potato, 35, 220; spinach, 219; sweet clover, 501; sweet pea, 218; tobacco, 218; tomato, 218; analogy to phloem-necrosis, 36; tobacco, relation of to mosaic on potato, 42; transmission through embryo, 45
MURPHY, PAUL A., New or little-known diseases of potatoes which cause "running out" of seed (abst.), 316–317; and WORTLEY, E. J., Relation of climate to the development and control of leaf roll of potatoes, 407–414

Nail-head spot of tomato fruit, 9, 59
Napicladium tremulae, 318
Nasturtium, bacterial leaf spot, insect transmission of, 203
NEAL, D. C., Phony peaches: a disease occurring in middle Georgia, 106–110
Nectria, ditissima, insect transmission of, 197; ipomoeae, 317
Nematode, cause of red ring of coconut palms, 401; disease of red clover and strawberry, 66, 91
NORTON, J. B. S., and CHEN, C. C., Some methods for investigating internal seed infection, 399–400
NOWELL, WILLIAM, The red ring or "root" disease of coconut palms (review), 401
Nummularia discreta, 58

Oat, blade blight, insect transmission of, 195; Helminthosporium, 317
Olea europaea, 388
Oleander, bacteriosis, insect transmission of, 213
Olive-knot, insect transmission of, 212
Onion, blight, insect transmission of, 204; smut control, 323
ORTON, C. R., The crop protection institute, 544–545
ORTON, W. A., Streak disease of potato, 97–100

Pacific Division, American Phytopathological Society, report of meeting, 351–352
PARKER, JOHN H., see MELCHERS, L. E.
PARKS, T. H., see STOVER, W. G.
Patent rights and scientific instruments, 67
Pea blight, Pythium, 67
Peach, blossom blight, 64; brown rot, insect transmission of, 195; heart-rot, 65; phony disease, 106; yellows in Ontario, 318
Peanut, leaf spot, insect transmission of, 208; rust, 65
Pear blight, insect transmission of, 192
Pecan, kernel spot, insect transmission of, 199; scale, insect transmission of, 205
Penicillium glaucum, 494
Peony, Botrytis blight, insect transmission of, 203
Peppers, resistant in wilt infested soil, 59
Peridermium, cerebrum, 279; elatinum, 315; harknessii, 279, 395
Peronospora, parasitica in turnip roots, 321; schleideniana, insect transmission of, 204
Personals, 111, 256, 308, 343, 402, 459, 546

Pestalozzia, cydoniae, 391; funerea, 391; gongrogina, 390; guepini, 277, 391; hartigii, 390; sapotae, 391; scirrofaciens, 392; tumefaciens, 390
Phallus impudicus, insect transmission of, 207
Philippines, banana wilt in, 504; plant pathology in, 503
Phloem-necrosis, potato, 35; relation to mosaic of Solanaceae and effect on potato culture, 35; spread by aphids and other insects, 48
Phloem-necrosis-free potatoes, raising, 48
Pholiota adiposa, 372
Phoma, apiicola, 67; oleracea, insect transmission of, 197; root-rot of celery, 67
Phomopsis, juniperovora, 249; thujae, 252
Phony peaches, 106
Phyllosticta, antirrhini, blight of snapdragon, 232; solitaria, 353
Phytopathological notes, 50, 111, 254–258, 305–308, 342–343, 375–376, 402, 459, 496–505, 544–546
Phytophthora, cryptogea, 529; infestans, insect transmission of, 202; infestans on potatoes, copper required for control of, 298; infestans on tomato seedlings, 317; infestans, susceptibility to by potatoes attacked by mosaic and phloem-necrosis, 46; phaseoli, insect transmission of, 195; sp., the cause of tomato stem-girdle, 532; terrestria on citrus, 397; terrestria on tomatoes, 101, 172, 529; terrestria, effect of temperature on, 340
Picea, pungens, 389; excelsa, 390
PIERCE, W. DWIGHT, see RAND, FREDERICK V.
Pine, white, blister rust on in 1918, 513; needle blight of (abst.), 315
Pineapple fruit rot, insect transmission of, 197, 201
Pinus, attenuata, 395; caribaea, 396; contorta, 395; halepensis, 396; jeffreyi, 397; mayriana, 396; palustris, 396; pinea, 396; ponderosa, 395; ponderosa, abnormal growth of, induced by chloral hydrate soil treatment, 334; ponderosa scopulorum, 396; sabiniana, 395; strobus, 390; taeda, 396; virginiana, 396
Plant diseases, in Ontario, 317; literature on, 69, 112, 181, 259, 309, 344, 377, 403, 431, 460, 506, 547
Plant pathology, changes of a decade in, 65; in the Philippines, 503
Plants in sterile media, device for growing, 425
Pleurotus, 466
Plum, brown rot, insect transmission of, 195; leaf spot, 317; shot hole, 317
Pokeweed, mosaic, insect transmission of, 218
Polygonum, formation of wound tissue by mechanical injury, 30
Polyporus schweinitzii, 314, 395
Polystictus versicolor, 466, 469
Poplar, new disease of, 318; see also Populus
Populus balsamifera, Cytospora on, 442; deltoides, Cytospora on, 442; tremuloides, Cytospora on, 442; trichocarpa, Cytospora on, 442
Poria xantha, 61
Potato, "crinkle," 316; culture, effect of on mosaic and phloem-necrosis, 35; curly dwarf, 36; frost injury, 423; hopperburn, 61; late blight, control of, 298; late blight, insect transmission of, 202; leaf curl, 35; "leaf drop," 317; leaf roll, 35, 60, 316; leaf roll, infection of neighboring plants, 43; leaf roll, relation of climate to development and control of, 407; mosaic, 35, 316; mosaic, infection of neighboring plants, 43; mosaic, insect transmission of, 48, 220; mosaic, relation of to mosaic of tobacco, 42; rust, 65; scab, control of, 60; scab, influence of soil temperature on, 63; scab, sulphur experiments on, 60; seed, advice for selecting, 49; streak, 97; tipburn, 61; varieties, senility of, 46; wart, survey of, 60; wilt, 317
Prunus, demissa, Cytospora on, 443; virginiana, 317
Pseudomonas juglandis, insect transmission of, 200

Pseudorhiza of Agaricineae, 316
Puccinia, antirrhini, 317; graminis on native Berberis canadensis, 305; graminis tritici, 52, 448; graminis tritici compacti, 52; triticina Eriks. on wheat, 164
Pythiacystis citrophthora, 397
Pythium debaryanum pea blight, 67

QUANJER, H. M., Mosaic disease of the Solanaceae, its relation to the phloem-necrosis, and its effect upon potato culture, 35–47

RAND, F. V., and CASH, LILLIAN C., Some insect relations of Bacillus tracheiphilus Erw. Sm., 133–140; RAND, F. V., and PIERCE, W. D., A coordination of our knowledge of insect transmission in plant and animal diseases, 189–231
RANKIN, W. H., Butt rots of balsam fir in Quebec Province (abst.), 314–315
Raspberry, fruit rot and wilt, insect transmission of, 209
Red clover, nematode disease of, 91
Red ring of coconut palms (review), 401
REDDICK, DONALD, Scientific instruments and patent rights (abst.), 67; A fourth Phytophthora disease of tomato, 528–534
REDDY, C. S., and BRENTZEL, W. E., Flax canker, a non-parasitic disease (abst.), 66
Report on St. Louis meeting of American Phytopathological Society, 265–271
Resistant varieties, cabbage to Fusarium, 64; soy bean to bacterial blight, 68
Rhizoctonia, stem rot of tomatoes, 59; solani on peas, 67
Rhizopus nigricans, infection of corn on the germinator, 494, 535
RHOADS, ARTHUR S., Studies on the rate of growth and behavior of the blister rust on white pines in 1918, 513–527
Rhododendron, diseases, 273; shoe string rot of, 375
Rhynchosporium secalis on barley and rye, 54
Ribes, and white pine blister rust control, 177; americanum, 361; cynosbati, 359, 360, 361; rotundifolium, 361
Rice, seedling blight, 342
ROBERTS, JOHN W., The apple blotch and bitter-rot cankers, 353–357
"Root" disease of coconut palms (review), 401
Root-rot of corn, 55
ROSENBAUM, JOSEPH, Studies with Macrosporium from tomatoes, 9–21; A stem disease of tomato caused by Macrosporium solani E. and M. (abst.), 59; Infection experiments on tomatoes with Phytophthora terrestria Sherb. and a hot water treatment of the fruit, 101–105; A Macrosporium foot-rot of tomato, 415–422
RUSSELL, A. M., see ADAMS, J. F.
Rust, blister, on white pines, 513; insect transmission of, 200; peanut, 65; potato, 65; tomato, 65; wheat, 52
RUMBOLD, CAROLINE, Causes for the production of pathological xylem in the injected trunks of chestnut trees, 23–33
Rye, Rhynchosporium secalis on, 54
Rye grass, ergot, insect transmission of, 208; western smut of, 316

Saccharomyces glutinis, 538
Salix, lasiandra, Cytospora on, 443; viminalis, 390
Sambucus, glauca, Cytospora on, 443
Sapodilla, 383
Scab, potato, influence of soil temperature on, 63; wheat, 51; wheat, effect of temperature and light on, 52
Schilberszky, formation of wound tissues, 27
SCHMITZ, HENRY, Observations on some common and important diseases of the Rhododendron, 273–278; Shoe-string rot of Rhododendron and Azalea caused by Armillaria mellea, 375
Sclerotinia, cinerea, 64; fructigena, insect transmission of, 195; libertiana on tomatoes, 500
Sclerotium, on rice, 342; bifrons on aspen, 141

Seed, internal infection of, 399; selection, for control of potato mosaic, 46, for control of potato leaf roll, 407; treatment, for control of black leg of cabbage, 64, for control of bur clover leaf-spot, 66
Seed transmission, of cabbage black rot, 175; of Sclerotium on rice, 342
Seed potatoes, raising free from phloem-necrosis and mosaic, 48
Septoria, on tomato, control of, 60; lycopersici, 59; lycopersici, insect transmission of, 210; of wheat, vitality of spores, 51
SERRANO, FELICISIMO B., see LEE, H. ATHERTON
Sheath spot of corn, 487
Shoe-string rot of Rhododendron and Azalea caused by Armillaria mellea, 375
SMILEY, EDWINA M., The Phyllosticta blight of snapdragon, 232–248
SMITH, E. F., Chemical stimulation of cells, 29
SMITH, FLORENCE P., see ATWOOD, ALICE C.
Smut, coix, 331; insect transmission of, 200; loose, of wheat, 53; stinking, of wheat, 53
Snapdragon, Phyllosticta blight, 232; rust, 317
SNELL, WALTER H., Observations on the distance of spread of aeciospores and urediniospores of Cronartium ribicola, 358–364
Soil temperature, influence of, on cabbage yellows, 63, on Fusarium wilt of tomato, 63, on potato scab, 63
Soil treatment, chloral hydrate, 334
Solanaceae, mosaic, 35
Sorbus, scopulina, Cytospora on, 443
Sorghum head smut, 307
Sorosporium reilianum, 307
Southern Division meeting of American Phytopathological Society, 381
Soy bean, bacterial blight, 68, 119
Sphacelotheca reiliana, 328
Sphaerella rhododendri, 277
Sphaeronema fimbriata, insect transmission of, 202
Sphaeropsis, sp., 466; malorum, 453
SPENCER, E. R., Black crust of Brazil nuts (abst.), 61
Spinach blight, insect transmission of, 219
Spore discharge, mode of in Uredineae and Hymenomycetes, 315
Sporocybe azalea, 274
Sporotrichum anthophilum, insect transmission of, 196
Spraying experiments with apples, 58
Spruce, black, witches' broom, 317
STAKMAN, E. C., Recent progress in the investigation of cereal rusts, 319; and KRAKOVER, L. J., Puccinia graminis on native Berberis canadensis, 305–306
Statice rust, 317
Stem-end rot of greenhouse tomatoes, 498
Stem-girdle of tomato, 528
Stem rust of wheat, 448
STEVENS, F. L., Foot-rot of wheat and its fungous associates (abst.), 52; Changes of a decade in plant pathology (Abst.), 65
STILLINGER, C. R., Apple black rot (Sphaeropsis malorum Berk.) in Oregon, 453–458
Stink-horn fungus, insect transmission of, 207
STONE, R. E., Witches' broom of Canada balsam and the alternate hosts of the causal organism (abst.), 315; and HOWITT, J. E., Plant diseases and fungi comparatively new or rare in Ontario (abst.), 317–318
STOVER, W. G., Some results of corn root-rot work in Ohio (abst.), 55; and BEACH, F. H. and PARKS, T. H., Results of spraying the apple for blotch in Ohio in 1919 (abst.), 58
Strawberry, leaf blotch, 317; nematode disease, 66, 91
Streak disease of potato, 97
Sugar beet, bacterial leaf spot, insect transmission of, 203; curly top, insect transmission of, 216
Sugar cane, gumming disease, 429; pineapple disease, insect transmission of, 201; red rot, insect transmission of,

203; rind disease, insect transmission of, 204; root rot, insect transmission of, 207
Susceptible varieties, soy bean, to bacterial blight, 68
Sweet clover, a suspected mosaic disease of, 501
Sweet pea, anthracnose, insect transmission of, 198; mosaic, insect transmission of, 218
Sweet potato, black rot, insect transmission of, 202; ring rot, insect transmission of, 203; stem rot and tomato wilt, 306

Teliospores of Puccinia graminis, germination of, 448
Temperature, soil, relation of, to cabbage yellows, 63, to Fusarium wilt of tomato, 63, to potato scab, 63
Temperature chambers, 336
TEMPLE, C. E., Spacing tomato plants for field spraying (abst.), 59; Tomato spraying experiments for the control of Septoria (abst.), 60
Thelephora galactina, 466
THIEL, A. F., and WEISS, FREEMAN, The effect of citric acid on the germination of the teliospores of Puccinia graminis tritici, 448–452
Thielaviopsis paradoxa, insect transmission of, 197
THOMAS, C. C., Coix smut, 331–333
Thuja, occidentalis, Phomopsis on, 253; oriental is, Phomopsis on, 253
Tilletia, laevis, 53; tritici, 53
Timber decay in pulp and paper mill roofs (abst.), 314
Tip burn, potato, 61
TISDALE, W. B., The relation of soil temperature and soil moisture to the occurrence of cabbage yellows (abst.), 63; Iris leaf spot caused by Didymellina iridis, 148–163; see also JONES, L. R.; see also WALKER, J. C.
Tobacco, mosaic, insect transmission of, 218, relation of to mosaic of potato, 42
Tomato, buckeye rot, 172; early blight, 9; early blight, insect transmission of, 209; foot rot, 19; fruit rot, 19, 59; Fusarium wilt, influence of soil temperature on, 63; hot water treatment of fruit, 103; infection experiments with Phytophthora terrestria, 102; leaf spot, control of, 60; Macrosporium, on immature shipped fruit, 13; Macrosporium foot-rot, 415; mosaic, insect transmission of, 218; nail head spot, 9; Phytophthora blight of seedlings, 317; Phytophthora disease, 528; rust, 65; Sclerotinia wilt, 500; Septoria, control of, 60; Septoria, insect transmission of, 210; spacing plants for spraying, 59; stem disease, 59; stem end rot, 498; stem-girdle, 528; stem rot, 59, 317; sunburn, 59; wilt and sweet potato stem. rot, 306; tests of wilt-resistant, 59
Trametes pini, 372, 395
Transmission of disease by insects, 189
Trees, forest, Cytospora on, 442; shade, Cytospora on, 442
Trifolium, pratense L., nematode disease of, 91; repens, wilt of, 435, 441
Tropical phytopathology, 504
Tsuga canadensis, 389
Tumor, 383
Turnip, Peronospora in roots of, 321
Tylenchus dipsaci (Kühn) Bastian, 66; on red clover and strawberry, 91–95

Uredineae, shape of basidia and mode of spore discharge in, 315
Urediniospores of Cronartium ribicola, spread of, 358
Urocystis cepulae, 323
Uromyces limonii, 317
Urophlyctis alfalfae, 65
Ustilago, coicis, 331; tritici, 53; zeae, 307

Vanilla, diseases in Tahiti and Moorea, 341
Vascular system of plants, effect of chemicals on, 29
Velvet bean, bacterial leaf spot, 73
Venturia inaequalis, 58
Vetch, formation of wound tissue in, by injection of chemicals, 30, by mechanical injury, 27
Verticillium alboatrum, 317

WADE, A. E., see HUNGERFORD, CHAS. W.
WALKER, J. C., Occurrence and control of black leg of cabbage (abst.), 64; Experiments upon formaldehyde-drip control of onion smut, 323–327; and TISDALE, W. B., Observations on seed transmission of the cabbage black rot organism, 175–177; see also JONES, L. R.
Walnut blight, insect transmission of, 200
Washington meeting of the Advisory Board of American Plant Pathologists, 257–258
WEIMER, J. L., The distribution of buckeye rot of tomatoes, 172; see also HARTER, L. L.
WEIR, JAMES R., Note on the pathological effects of blazing trees, 371–373
WEISS, FREEMAN, see THIEL, A. F.
Wheat, bunt infection and soil moisture, 53; foot-rot, 52; Kanred, resistant to leaf rust, stem rust, stinking smut, and stripe rust, 52; loose smut, 53; scab, effect of temperature and light on, 52; Septoria, 51; stinking smut, 53; rust, insect transmission of, 200; varieties resistant to leaf rust, 164
White clover, wilt, 435
White leaf of Rhododendron, 275
White pine, blister rust, control in 1919, 177; blister rust, insect transmission of, 209; needle blight, (abst.), 315
Willow, see Salix
WILSON, J. K., Device for growing large plants in sterile media, 425–429
Wilt, of banana, 504; bacterial, of solanaceous plants, insect transmission of, 195; Sclerotinia, of greenhouse tomatoes, 500; of white clover, 435
Witches broom, of Canada balsam, (abst.), 315; on Rhododendron, 275
WOLF, F. A., Bacterial blight of soybean, 119–132; A bacterial leaf spot of velvet bean, 73–80
Wood-destroying fungi, 61
WOODWORTH, C. M., and BROWN, FLORENCE COERPER, Studies on varietal resistance and susceptibility to bacterial blight of soy bean (abst.), 68
WORTLEY, E. J., see MURPHY, PAUL A.
Wound tissues, produced by injection of chemicals, 23; produced by mechanical injury, 25, 27

Xylaria polymorpha, 466
Xylem, pathological, produced in chestnut by injection, 23; in wounded vetch seedlings, 28

Yellows, cabbage, influence of soil temperature on, 63
YORK, H. H., Late seasonal production of aecia of Cronartium ribicola, 111

ZUNDEL, GEORGE L., see DANA, B. F.